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10/520,281	01/28/2005	Sei Yamasaki	040709	7441
23850	7590	11/21/2006	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP			ADDIE, RAYMOND W	
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DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,281	<b>Applicant(s)</b> YAMASAKI ET AL.	
	<b>Examiner</b> Raymond W. Addie	<b>Art Unit</b> 3671	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**


- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

  
**RAYMOND ADDIE**  
**PRIMARY EXAMINER**

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because the Abstract is in single sentence form. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al.

JP 2001-159107.

Yamazaki et al. discloses a collision buffering body for road ways comprising:

At least one shock absorber (6) that deforms upon a collision of a vehicle.

A support (2) for supporting the at least one shock absorber.

A holding portion (1) that holds the support in a vertical position in an installation area.

A release portion (4/7) that fractures upon application of a load equal to or exceeding a set value, to release the support from being held in a vertical position.

The support capable of being plastically deformable by a load lower than the set value.

See Translated Abstract.

In regards to claim 2, the support is a pipe-like member.

The holding portion (1) comprises a connection portion (7) fixed on a lower part of the support and anchor bolts (4) are implanted in the installation area.

The anchor bolts being capable of fracturing upon application of a load equal to or greater than the set value. See Abstract.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Medley, Jr. # 3,838,661.

Medley, Jr. discloses a vehicle impact attenuator (10) comprising:

A shock absorber (48) of plastic type material.

A support (46) for the shock absorber (48).

A holding portion (20) that holds the support in a vertical position.

Wherein the holding portion has a release portion (60) that fractures upon application of a load that is equal to or exceeds a set value, to thereby release the support (46) from being held in said vertical position. The support being made of a plastically deformable material and deformable by a load lower than the set value. See cols. 1-3; Figs. 1-2.

4. Claims 1, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Leach et al. # 3,717,326.

Leach discloses a collision buffering body for road ways comprising:

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At least one shock absorber (20) that deforms upon a collision of a vehicle.

At least one support (17) for supporting the at least one shock absorber.

A holding portion (18) that holds the support in a vertical position in an installation area.

A release portion (56, 68) that fractures upon application of a load equal to or exceeding a set value, to release the support from being held in a vertical position.

Wherein a plurality of the supports (17) are held adjacent to each other in the installation area and the shock absorber is supported by all of the supports.

The support (17) being capable of plastically deforming by a load lower than the set value. See Cols. 1-2.

5. Claims 1, 2, 4, 11/2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirotaka # JP 10-176314.

Hirotaka discloses a vehicle impact attenuator (1) comprising:

A shock absorber (2/3).

A plurality of pipe-like supports (5) for the shock absorber (48).

A holding portion (5a) that holds the support in a vertical position.

An internal cushioning material (7) disposed within the at least one pipe-like support.

Wherein the holding portion has a release portion (unnumbered) that fractures upon application of a load that is equal to or exceeds a set value, to thereby release the supports (5) from being held in said vertical position. The support being made of a plastically deformable material and deformable by a load lower than a set value.

The holding portion further having a connecting portion (6b) fixed on a lower portion of said support via a plurality of anchor bolts, that function as the release portion. The anchor bolts being capable of fracturing upon application of a load equal to or exceeding the set value. The pipe-like supports being capable of plastic deformation as a flattening of the pipe-like member. See translated Abstract Figs. 1-2.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maestri #4,183,505 in view of Kuykendall et al. # 4,432,172.

Maestri discloses a vehicle impact attenuator comprising:

A shock absorber (10, 10a) capable of deforming plastically upon a vehicle collision.

A support (12) for supporting the shock absorber.

A holding portion (14), further comprising: A burying hole formed in the installation area to accommodate a lower portion (14) of the support (12).

What Maestri does not disclose is the use of "fracture zones" of intended failure.

However, Kuykendall et al. teaches it is old and well known to provide fracture zones in traffic support poles (10), in the form of drilled holes (11-14) or slots (15-17) in the

support (10) such that the cuts serve as fracture starting points when a load equal to or exceeding the set value is applied and functions as the release portion.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the guard posts of Maestri, with fracture zones, as taught by Kuykendall et al., in order to reduce the damage caused to an impacting vehicle.

See Cols. 1, 2, 5.

7. Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Svensson # 4,196,550 in view of Maestri # 4,183,505.

Svensson discloses a vehicle impact attenuator comprising:

A shock absorber (4) capable of deforming plastically upon a vehicle collision.

A pipe-like support (2) for supporting the shock absorber.

A plurality of fracture zones" of intended failure, in the form of longitudinal slits (1). The cuts serve as fracture starting points when a load equal to or exceeding a set value is applied, and functions as a release portion. Such that plastic deformation of the support (2) occurs as a flattening of the pipe-like member.

What Svensson does not disclose is how the attenuator is mounted to a roadway or the ground. However, Maestri teaches it is known to provide impact attenuators with:

A holding portion (14), further comprising: A burying hole formed in the installation area to accommodate a lower portion (14) of a support (12).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the vehicle attenuator of Svensson, with a holding portion, buried in the ground or roadway, as taught by Maestri, in order to secure the attenuator in a vertical, operational condition. See Svensson Cols. 1-2; figs. 2-3; Maestri cols. 2-3; Figs. 1-4.

8. Claims 5, 8/5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. # 3,838,661 in view of Andonian # 5,207,175.

Medley, Jr. discloses a vehicle impact attenuator (10) As put forth with respect to claim 1, above, to include the use of a steel spring coil that plastically deforms upon application of a load equal to or exceeding a predetermined value is further provided. What Medley, Jr. does not disclose is burying the attenuator in the ground. However, Andonian teaches spring supported attenuators are equitably supported either on a trafficable surface, via a fitting member (5), that approximately retains its original shape after a collision, and either: A flat metal base (9) or alternatively supported in the ground, via a spiked base (1) capable of being pushed or hammered into the ground. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the attenuator of Medley, Jr. with a spiked base, as taught by Andonian, in order to position the attenuator in the ground, to slow a vehicle inadvertently existing a roadway or other trafficable surface. See Andonian Cols. 2-3; Figs. 1-4.



With respect to claim 6, Medley, Jr. clearly discloses the use of steel in providing the coil spring. What Medley, Jr. does not disclose is the dimensions of the spring.

However, Andonian teaches it is obvious to form the spring "of sufficient size and strength to restore the marker post to its original upright position after impact".

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the attenuator of Medley, Jr., with a spring of sufficient size and strength for the intended application. See Andonian Col. 3, lns. 18-25.

9. Claim 3, 4, 8/3, 8/4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotaka # JP 10-176314 in view of Svensson 4,196,550.

Hirotaka discloses essentially all that is claimed, to include a holding portion comprising a burying hole to accommodate a lower part of the support, the support being pipe-like. As well as, the use of a fitting member (6A) that has the strength sufficient to retain its original shape after the fracture of the release portion (5A).

What Hirotaka does not disclose is providing "fracture zones" in the supports.

However, Svensson teaches it is known to provide a plurality of fracture zones" of intended failure, in the form of longitudinal slits (1). The cuts serve as fracture starting points when a load equal to or exceeding a set value is applied, and functions as a release portion. Such that plastic deformation of the support (2) occurs as a flattening of the pipe-like member.

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Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the attenuator of Hirotaka, with a plurality of cuts, as taught by Svensson, in order to form a fracture zone of intended failure, that reduces the incidence of damage to a vehicle colliding with said attenuator.

See Svensson Cols. 1-2; figs. 2-3.

10. Claims 9/2, 9/4, 10/2, 10/4, 11/2, 11/4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirotaka # JP 10-176314 in view of Kuykendall et al. # 4,432,172.

Hirotaka discloses essentially all that is claimed, to include the use of pipe-like support members (5) made of either iron or plastic but does not disclose the yield strength of the attenuator assembly. However, Kuykendall et al. teaches it is known to modify support post with an internal cushioning material (5b) impact attenuating support posts must be capable of accommodating specific size vehicles, such as 1000 Kg, traveling at specific speeds, such as 30Km/hr. Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to make the impact attenuator of Hirotaka, to have a fracture load range of 50Kn or more, in order to accommodate specific size vehicle and thus minimizing driver injury, as reasonably suggested by Kuykendall et al. See col. 2.

11. Claims 9/5, 10/9/5, 11/5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medley, Jr. # 3,838,661 in view of Andonian # 5,207,175 as applied to claim 5 above, and further in view of Kuykendall et al. # 4,432,172.

Medley, Jr. in view of Andonian discloses essentially all that is claimed, but does not disclose a desired load strength for the support member. However, Kuykendall et al. teaches it is known impact attenuating support posts must be capable of accommodating specific size vehicles, such as 1000 Kg, traveling at specific speeds, such as 30Km/hr. Kuykendall et al. further discloses support posts can be modified with weakened zones, optionally filled with a compressive material, to customize the load strength of each support post. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to make the impact attenuator of Medley, Jr. in view of Andonian, to have a fracture load range of 50Kn or more, in order to accommodate specific size vehicle, and thus minimizing driver injury, as reasonably suggested by Kuykendall et al. See col. 2.

### ***Response to Arguments***

12. Applicant's arguments filed 10/05/06 have been fully considered but they are not persuasive. Applicant argues against the use of the reference to Yamazaki et al. # JP 2001-159107 by stating "Yamazaki et al...is assigned to NKC KK and Osaka Prefecture as is the present invention".

But does not state to what affect the fact has on the instant application.

Further, it does not appear as though a common assignee is an issue in 35 U.S.C. 102(b) practice. Hence, the statement of co-assignment appears to be moot.

Applicant then argues "Yamazaki et al. fails to disclose...a breaking strength that allows the release portion to fracture upon application of a load equal to or exceeding a set value".

However, Applicant appears to contradict themselves by stating that the prior art to Yamazaki et al. "are designed to fracture under a certain load level...for example a value between 49kN and 392kN".

Hence, Applicant has clearly shown the prior art teaches the limitation claimed.

The fact the independent claims fail to define what the "set value" is, does not suggest the prior art does not teach a "set value", when Applicant readily admits the prior art does teach a set value.

Further, in view of claim 9, it appears the "set value" range disclosed by the prior art, is within the range claimed.

Applicant then argues "when a vehicle collides with a vehicle impact attenuator of the invention, the release portion fractures at first, then the support deforms".

However, the above statement clearly contradicts lines 12-13 of claim 1, which recites "the support being plastically deformable by a load lower than the set value"

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(which is still an undefined value); whereas lines 8-9 recite "a release portion that fractures upon application of a load equal to or exceeding a set value".

Hence, it appears as though the support deforms under a force below the set value, and then the release portion fractures under a force equal to or above the set value.

Therefore, Applicant's contradictory statements are not persuasive and the rejection is maintained.

Applicant then argues "When a vehicle C collides with the vehicle impact attenuator 100 .... , the impact is first absorbed by the deformation of the shock absorber 10 as shown in Fig. 2(b), then by the plastic deformation of the support 20 as shown in Fig. 2(c), and then by the fracture of the holding portion 30".

However, such is not claimed nor reasonably implied by any specific claim language.

See also Fig. 6C, which appears to show the support (20) deforming and then the release portion fracturing in Fig. 6d.

Hence, Applicant's arguments appear to teach away from that which is actually claimed.

Therefore, the arguments are not persuasive and the rejection is maintained.

Applicant then argues against the reference to Medley, Jr. by suggesting "Medley, Jr. fails to disclose the support (20) or the holding portion (30) is made of a release portion having a breaking strength that allows the release portion to fracture upon...a load of equal to or exceeding a set value".

However, Applicant's arguments are inconsistent with the claimed invention.

Claim 1 requires either the holding portion or the support "having a release portion". which is far broader and permits additional features to be incorporated into the holding portion or the support, whereas Applicant's argument is based on the holding portion or the support "is made of a release portion" and implying the holding portion or support comprises no other features, which is inconsistent with the actual claim language.

Further, Figs. 1 and 2 of Medley, Jr. clearly show the release portion (60) in contact with the support (20), and in Fig. 2 clearly separated from the support.

Still further, the "set value" at which the release portion is intended to "fracture" is still undefined in the independent claims.

Hence, it unclear as to how Applicant supports the argument the prior art does not teach the features claimed, when the features themselves are undefined in the claims being rejected in light of the cited prior art.

Applicant then asserts the references to Leach and Hirotaka doe not teach a release portion to fracture upon application of a load equal to or exceeding a set value.

However, Applicant fails to provide any evidence, disclosure or teaching to support the allegations of deficiency. Further Applicant clearly fails to address the anticipation of the claims by the cited prior art to Leach and Hirotaka, as put forth in the last office action. A mere allegation of patentability cannot be persuasive if the allegation does not clearly show how and in what way the prior art fails to teach the claimed limitations.

Applicant then argues against the combination of Maestri in view of Kuykendall et al., by suggesting "Maestri fails to describe 'a shock absorber that deforms upon a collision'" and supports the argument by suggesting "In Maestri...the bumper elements (10) are described as being solid and resilient".

However, resilient is synonymous with deformable.

Applicant admits as much by quoting Col. 2 of Maestri which states "the bumper elements will absorb and dissipate impact force".

Hence, Applicant's arguments are contradictory and fail to show a lack of obviousness on the part of the cited prior art.

Applicant furthers the argument by suggesting "Kuykendall et al. describes a...support pole that has cuts or recesses made in them to weaken the pole...However, the Kuykendall et al. timber pole fails (to) indicate the at the timber will fracture under a load equal to or exceeding a set value".

Clearly Applicant is attempting to apply an anticipation requirement where the rejection is based on obviousness.

Further, Applicant appears to lead one to believe that by forming cuts or recesses in a pole to weaken the pole, will not cause the pole to fracture under a load equal to a set value(which is still undefined in the rejected claims).

Clearly, this suggestion defies the general laws of physics. And is not persuasive.

Therefore the rejection appears proper and is maintained.

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Applicant then argues against the combination of Svensson in view of Maestri by suggesting "the shell (4) does not act as 'a shock absorber that deforms upon a collision of a vehicle to thereby reduce the impact on the vehicle'":

However, the Examiner does not concur.

Svensson clearly discloses "the tube is provided with an external shell 4 of slightly elastic material...when the post is subjected to a transverse force of the type produced when the post is being run into, then the discrete portions between the slits will act individually and produce an insignificant resistance to bending such that the pole will yield". See Col. 1, ln.50-col. 2, ln. 2.

Hence, it is clear the shock absorber (4) is made of an elastic material, which obviously deforms under a load, because it is elastic. Further, it is clearly disclosed by Svensson that when the post is run into the slits act individually (deforming) and thus absorbing impact energy that obviously "reduces the impact on the vehicle".

Further, Applicant has failed to address each reference utilized in the 35 U.S.C. 103(a) rejection. Therefore, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Hence, the argument is not persuasive and the rejection is maintained.



Applicant then argues against the combinations of Medley, Jr. in view of Andonian and Hirotaka in view of Svensson and Hirotaka in view of Kuykendall et al., and Medley, Jr. in view of Andonian and further in view of Kuykendall et al., by suggesting all the dependent claims rejected are allowable by virtue of there dependence from allowable claim 1.

However, the Examiner does not concur.

Applicant has failed to show how the prior art fails to teach that which is claimed, and the mere allegation a prior art reference does not disclose or teach a particular feature or function does not meet Applicants' burden of proof, to show a lack of anticipation or obviousness. Applicant must show how the features in the prior art, cited by the Examiner do not disclose or teach the limitations claimed.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond W. Addie whose telephone number is 571 272-6986. The examiner can normally be reached on 6AM-2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571 272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**Raymond Addie**  
**Primary Examiner**  
**Group 3600**

11/16/06